

## THE PURPOSE AND TASKS OF CONDUCTING TIMSS RESEARCH IN UZBEKISTAN

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**Abstract:** This article is devoted to the goals and objectives of Uzbekistan's participation in the TIMSS (Trends in International Mathematics and Science Study) study to assess and develop the quality of education at the international level. Through the TIMSS study, students' knowledge and skills in mathematics and natural sciences, logical thinking skills, and their compliance with international standards are studied. The study is an important platform for improving the quality of education in Uzbekistan, improving teaching methodologies, and updating curricula based on international requirements. This article covers the main goals, objectives, the essence of the research process, and the possibilities of using its results.

**Keywords:** TIMSS, international educational research, mathematics and natural sciences, quality of education in Uzbekistan, knowledge and skills of students, logical thinking, educational assessment, curriculum improvement, international standards, development of the education system

**Significance of the TIMSS Study.** TIMSS (Trends in International Mathematics and Science Study) is an international educational assessment study. This study, conducted every four years, compares the knowledge of students around the world in mathematics and science. Through its comprehensive and rigorous methodology, TIMSS helps to study the effectiveness of education systems and provides important analytical information about global education. At the same time, it serves as the main source of information in making decisions on improving students' knowledge and skills.

**1. Evaluating the effectiveness of educational systems.** The TIMSS study is an important tool for determining the effectiveness of education systems by comparing the performance of students in mathematics and natural sciences around the world. The results allow the analysis of student achievement in different countries and help identify the strengths and weaknesses of their education systems. Countries use this information to improve their education systems.

**2. Formation of educational policy and support for changes.** The results of the TIMSS study provide useful information about the educational success of students. This information serves as a basis for the formation of educational policies for governments and educational system management bodies. TIMSS results will be one of the important bases for developing strategies aimed at improving students' knowledge and skills.

**3. International exchange of educational experience.** TIMSS results provide an opportunity for students and education systems to exchange international experience. Countries look at the strengths and weaknesses of their own education systems and learn from the successful experiences of other countries. This, in turn, helps to improve students' knowledge. At the same time, TIMSS results provide an opportunity to compare and study approaches to education at the international level.

**4. Analysis and monitoring of national education systems.** Another important aspect of TIMSS research is the analysis and monitoring of national education systems. The research measures the level of students' knowledge and helps determine the quality of the teaching process. In this way, necessary changes can be made to improve the knowledge and skills of students.

**5. Analysis of social and economic factors.** TIMSS research links educational outcomes to social and economic factors. By studying the differences that exist between countries, important information can be obtained about the influence of social and economic conditions on educational outcomes. This, in turn, helps in the development of policies aimed at improving student achievement. TIMSS research includes such important aspects as evaluating the effectiveness of education systems around the world, forming education policies, sharing experience at the international level, analyzing national systems, and taking into account social and economic factors. TIMSS research is critical to improving students' knowledge of math and science, improving education systems, and helping students succeed in the future.

In order to develop the educational system of Uzbekistan and increase the level of knowledge of students, it is important to participate in international educational evaluation studies. The TIMSS (Trends in International Mathematics and Science Study) study has a special place among such studies. The TIMSS survey is aimed at assessing the knowledge and skills of students in mathematics and natural sciences, and allows to compare the level of education of students around the world. The goals and objectives of the TIMSS study in Uzbekistan envisage many strategic steps aimed at improving the country's education system and increasing student success.

#### **Objectives of TIMSS Research in Uzbekistan**

##### **1. Evaluation of the effectiveness of the educational system**

The main purpose of the TIMSS study in Uzbekistan is to evaluate the effectiveness of the education system. The study shows how effective the country's education system is by measuring students' knowledge of math and science. This helps to identify weaknesses and develop strengths in the field of education.

##### **2. Development of strategies to improve the quality of education**

The results obtained through the TIMSS research create an opportunity to develop specific measures to further improve the education system of Uzbekistan. Having a complete picture of the level of knowledge and progress of students allows us to make changes in the field of education, improve the skills of teachers and improve curricula.

##### **3. Studying the experience of international education**

Conducting the TIMSS study in Uzbekistan allows to compare the country with the educational systems of other countries. The results of the study provide important information for studying successful educational models in other countries and implementing them in their own system. Exchange of international experience helps to increase the global competitiveness of the educational system of Uzbekistan.

##### **4. Formation of educational policy**

The TIMSS survey provides an opportunity to evaluate the effectiveness of educational policies by measuring student achievement. The results of the research serve as an important tool for the government and educational organizations to formulate the right policies in the field of education, to allocate resources effectively and to implement the necessary changes in the education system.

##### **5. Analysis of social and economic factors in education**

Conducting TIMSS research in Uzbekistan allows to study social and economic factors affecting the level of knowledge of students. This will help the country develop policies to address educational inequities and improve student achievement.

#### **Tasks of TIMSS Research in Uzbekistan**

##### 1. Measuring students' knowledge and skills

One of the main tasks of the TIMSS research is to determine the knowledge and skills of students in mathematics and natural sciences. This task shows how the students of Uzbekistan are positioned on a global scale and allows to assess the current state of the education system.

##### 2. Analysis of the effectiveness of the educational system

Research measures the effectiveness of teaching methods and curricula by analyzing student achievement. This task creates the necessary foundations for identifying weaknesses in the educational system and developing measures aimed at improving them.

##### 3. Assist in the development of the national education strategy

The TIMSS study will help develop national strategies for improving Uzbekistan's education system. The results of the research will be the basis for determining the necessary measures to increase the level of knowledge of students.

##### 4. Analysis of the relationship between student success and resources

The TIMSS study analyzes the effectiveness of educational resources by measuring student achievement. It helps to determine how existing resources (teachers, curriculum, school infrastructure) affect the level of knowledge of students and to ensure the implementation of necessary changes in this area.

##### 5. Development of measures aimed at improving students' knowledge

Based on the results of the research, specific measures aimed at improving the knowledge of students will be developed. This task provides developments aimed at improving all aspects of the education system, including teaching methods, curricula and assessment systems.

#### **Summary**

Conducting the TIMSS survey in Uzbekistan is an important tool for global assessment of the country's education system, raising the level of students' knowledge and improving the education system. The main purpose of the research is to evaluate the efficiency of the educational system, to develop the necessary strategies to improve the quality of education and increase the success of students. At the same time, the TIMSS study plays an important role in the study of the international educational experience of Uzbekistan and in the formation of educational policy. This process helps to develop the country's education system and increase global competitiveness.

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